



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Charles L. DAVIS  
Patrick D. HARRISON  
John E. BRONSON

Title: NONINVASIVE METHOD OF MEASURING  
BLOOD DENSITY AND HEMATOCRIT

Serial No.: 10/760,625

Filing Date: 20 January 2004

Customer No.: 42419

**FIRST INFORMATION DISCLOSURE STATEMENT**

**Mail Stop AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with Rules 1.56 and 1.98, the references AA-AK on Sheet 1 and AA-AH on Sheet 2 listed on Form PTO-1449 are cited and discussed on Pages 2-5 of the referenced patent application and are brought to the attention of the Examiner as being possibly material to examination of this application.

In accordance with Rule 1.56 and MPEP Section 2001.06(a),

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

11 October 2004  
11 OCT 04  
Date

Roland W. Morris  
Signature

Serial No.: 10/760,625

References AI-AK on Sheet 2 and AA-AB on Sheet 3 listed on Form PTO-1449 were cited in the counterpart PCT patent application and are brought to the attention of the Examiner as being possibly material to examination of this application. A copy of the ISR/WO is enclosed.

The remaining references listed on Form PTO-1449 are also brought to the attention of the Examiner as being possibly material to examination of this application.

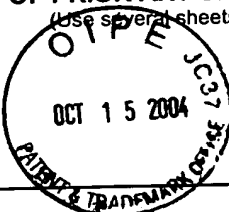
Form PTO-1449 (six (6) pages) is enclosed with a copy of each and every foreign reference and article reference cited on Form PTO-1449.

Respectfully submitted,



Roland W. Norris  
Registration No. 32,799

Pauley Petersen & Erickson  
2800 West Higgins Road; Suite 365  
Hoffman Estates, Illinois 60195  
TEL (847) 490-1400  
FAX (847) 490-1403

FORM PTO-1449 (MODIFIED)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. HE-102		SERIAL NO. 10/760,625	
<b>LIST OF PRIOR ART CITED BY APPLICANT</b> (Use several sheets if necessary)				APPLICANT(S) Charles L. DAVIS et al.			
<div style="text-align: center;">  </div>				FILING DATE 20 January 2004		GROUP	

U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
	AA	3,957,197	05/1976	Sartory et al.			
	AB	5,101,825	04/1992	Gravenstein et al.			
	AC	5,277,181	01/1994	Mendelson et al.			
	AD	5,351,686	10/1994	Steuer et al.			
	AE	5,372,136	12/1994	Steuer et al.			
	AF	5,456,253	10/1995	Steuer et al.			
	AG	5,487,384	01/1996	Lee			
	AH	5,499,627	09/1996	Steuer et al.			
	AI	5,526,808	06/1996	Kaminsky			
	AJ	5,553,615	09/1996	Carim et al.			
	AK	5,564,418	10/1996	Ozaki et al.			

FOREIGN PATENT DOCUMENTS								
DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION			
					YES	NO		
AL	(intentionally left blank)							
AM	(intentionally left blank)							
AN	(intentionally left blank)							
AO	(intentionally left blank)							
AP	(intentionally left blank)							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
AR	(intentionally left blank)		
AS	(intentionally left blank)		
AT	(intentionally left blank)		

EXAMINER	DATE CONSIDERED
----------	-----------------

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

HE-102

SERIAL NO.

10/760,625

**LIST OF PRIOR ART CITED BY APPLICANT**  
(Use several sheets if necessary)

APPLICANT(S)

Charles L. DAVIS et al.

FILING DATE

20 January 2004

GROUP

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,642,734	07/1997	Ruben et al.			
	AB	5,720,284	02/1998	Aoyagi et al.			
	AC	5,755,226	05/1998	Carim et al.			
	AD	5,803,908	09/1998	Steuer et al.			
	AE	5,833,602	11/1998	Osemwota			
	AF	5,836,317	11/1998	Kunst			
	AG	5,978,691	11/1999	Mills			
	AH	5,983,120	11/1999	Groner et al.			
	AI	3,769,834	11/1973	Fletcher et al.			
	AJ	4,204,545	05/1980	Yamakoshi			
	AK	5,237,997	08/1993	Greubel et al			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL	(intentionally left blank)						
	AM	(intentionally left blank)						
	AN	(intentionally left blank)						
	AO	(intentionally left blank)						
	AP	(intentionally left blank)						

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	(intentionally left blank)
	AS	(intentionally left blank)
	AT	(intentionally left blank)

EXAMINER

DATE CONSIDERED

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

USCOMM-DC 80-3985

FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

HE-102

SERIAL NO.

10/760,625

**LIST OF PRIOR ART CITED BY APPLICANT**

(Use several sheets if necessary)

APPLICANT(S)

Charles L. DAVIS et al.

FILING DATE

20 January 2004

GROUP

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,400,793	03/1995	Wesseling			
	AB	6,527,728	03/2003	Zhang			
	AC	3,998,550	12/1976	Konishi et al.			
	AD	4,169,463	10/1979	Piquard			
	AE	4,178,918	12/1979	Cornwell			
	AF	4,407,290	10/1983	Wilber			
	AG	4,524,777	06/1985	Kisioka et al.			
	AH	4,547,735	10/1985	Kiesewetter et al.			
	AI	4,745,279	05/1988	Karkar et al.			
	AJ	4,873,987	10/1989	Djordjevich et al.			
	AK	4,875,488	10/1989	Shimazu et al.			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL	02/24053	03/2002	WO				
	AM							
	AN							
	AO							
	AP							

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		H. Shimazu et al., <i>Electric Impedance Cuff For The Indirect Measurement Of Blood Pressure</i>
			<i>And Volume Elastic Modulus In Human Limb And Finger Arteries, Medical &amp; Biological Engineering &amp; Computing</i> (1989), pages 477-483.
	AS		H. Shimazu et al., <i>Evaluation of the Parallel Conductor Theory for Measuring Human Limb Blood Flow by Electrical</i>
			<i>Admittance Plethysmography</i> , IEEE Transactions on Biomedical Engineering, 1982, Vol. BME-29, No. 1.
	AT		Patrick Zickler: <i>Bioimpedance Measurements, Biomedical Instrumentation &amp; Technology</i> , p. 173-175,
			March/April 1998.

EXAMINER

DATE CONSIDERED

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

USCOMM-DC 80-3985

p1005.1/ vls

FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

HE-102

SERIAL NO.

10/760,625

**LIST OF PRIOR ART CITED BY APPLICANT**

(Use several sheets if necessary)

APPLICANT(S)

Charles L. DAVIS et al.

FILING DATE

20 January 2004

GROUP

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,927,264	05/1990	Shiga et al.			
	AB	5,090,417	02/1992	Mollan et al.			
	AC	5,241,963	09/1993	Shankar			
	AD	5,309,916	05/1994	Hatschek			
	AE	5,343,868	09/1994	Kurscheidt et al.			
	AF	5,351,694	10/1994	Davis et al.			
	AG	5,423,322	06/1995	Clark et al.			
	AH	5,423,324	06/1995	Tomita			
	AI	5,447,161	09/1995	Blazek et al.			
	AJ	5,566,667	10/1996	Cox			
	AK	5,630,424	05/1997	Raines et al.			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		Rudolph J. Liedtke, <i>Bioelectrical Impedance Principles</i> , April 1997.
	AS		Jaap H. J. Muntinga and Klaas R. Visser, <i>Estimation of blood pressure-related parameters by electrical impedance measurement</i> , <i>Journal of Applied Physiology</i> , November 1992; 73(5), pp 1946-1957.
	AT		P. Gizdulich and K. H. Wesseling, <i>Forearm arterial pressure-volume relationships in man</i> , <i>Clin. Phys. Physiol. Meas.</i> , 1988, Volume 9, No. 2, pp 123-132.

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

USCOMM-DC 80-3985

p1005.1/ vls

FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

HE-102

SERIAL NO.

10/760,625

**LIST OF PRIOR ART CITED BY APPLICANT**  
(Use several sheets if necessary)

APPLICANT(S)

Charles L. DAVIS et al.

FILING DATE

20 January 2004

GROUP

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,692,513	12/1997	Davis et al.			
	AB	5,711,303	01/1998	Shimizu et al.			
	AC	5,715,828	02/1998	Raines et al.			
	AD	5,724,981	03/1998	Apple			
	AE	5,823,045	10/1998	Van Driel et al.			
	AF	6,120,459	09/2000	Nitzan et al.			
	AG	6,125,297	09/2000	Siconolfi			
	AH	6,128,518	10/2000	Billings et al.			
	AI	6,554,774	04/2003	Miele			
	AJ	6,561,986	05/2003	Baura et al.			
	AK	6,749,567	06/2004	Davis et al.			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		
	AS		
	AT		

EXAMINER

DATE CONSIDERED

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

USCOMM-DC 80-3985

p1005.1/ vls

FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

HE-102

SERIAL NO.

10/760,625

**LIST OF PRIOR ART CITED BY APPLICANT**

(Use several sheets if necessary)

APPLICANT(S)

Charles L. DAVIS et al.

FILING DATE

20 January 2004

GROUP

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	2003/0135124 A1	07/2003	Russell			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		
	AS		
	AT		

EXAMINER

DATE CONSIDERED

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

USCOMM-DC 80-3985

p1005.1/ vls